

A new species of stingless bee (Meliponini) from Costa Rica

by

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The species to be described in this paper belongs, in the broad sense, to the subgenus *Hypotrigona*. *Hypotrigona*, however, is a composite group, well represented in America, Africa, and the Oriental region. Although members of this group all have several common characters, and there is probably some phylogenetic relationship among them, it is also likely that certain of these common characters are indicative of convergence due to small size. Within the group, therefore, several phylogenetic lines or evolutionary levels can be recognized, all of which have been given taxonomic names by MOURE (1, 2). The American Hypotrigonas are probably the most divergent of all, as indicated by the great size of the pterostigma, the basally very broad marginal cell, the very narrow clypeus, and the structure of the inner face of the hind tibia, which approaches that of the subgenera *Cephalotrigona*, *Oxytrigona*, *Dactylurina*, *Tetragona* and *Trigona*. For this reason, the American Hypotrigonas more than any other phylogenetic line should be regarded as a valid taxonomic group. MOURE (1) further divided the American Hypotrigonas into the groups *Leurotrigona*, *Celetrigona*, *Dolichotrigona* and *Trigonisca*. Taking a more conservative point of view the American Hypotrigonas can be regarded as a subgenus and they can be called, as already suggested in a previous paper (3) by the general name of *Trigonisca*.

There are five species of *Trigonisca* in Costa Rica, three of them well known: *T. atomaria*, *T. buyssoni* and *T. schulthessi*. The other two are still undescribed. One of the undescribed species is dealt with in the present paper, the other species will be described by Moure.

Trigonisca is known in Costa Rica by the vernacular name of chupaojos or eye-licker. Its habit of flying into the eyes is also known in Brazil, where it is called in certain places "Lambe-olho". It should be recalled that one of the first species of *Trigonisca* described by Friese, *T. duckei*, was based on a specimen

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that had lodged in the eye of Ducke. So far, all the nests of *Trigonisca* that have been studied have the brood cells arranged in clusters.

Trigona (Trigonisca) discolor,¹ n. sp.

SIZE: Total length 2.7 mm.; length of forewing 2.40 mm.; width of head 1.19 mm.; width of thorax 1.07 mm.; width of abdomen 0.95 mm.

COLOR: General color light brown. The following parts ferrugino-testaceous: head, except supra-antennal area and vertex, which are brown, and distal border of mandible, which is reddish; fore and middle legs; coxa and trochanter of hind leg; posterior part of prothorax; a narrow area on anterior part of scutellum; tegula; subalar area; and small area just behind hypopleural area.

PUBESCENCE: Scarce and very short, longer on scutellum, hind tibia, and ventral side of abdomen. Hairs whitish.

PUNCTATION: Head, pronotum, and mesonotum finely tessellated. Mesepisternum with punctation minute, sparse, and slightly granulate, with punctures becoming denser anteriorly and sparser posteriorly and ventrally. Medial portion of propodeum finely reticulated and slightly shining, lateral surfaces densely punctate. Abdominal terga smooth and shining.

STRUCTURE: Length of eye 2.3 times breadth; inner orbits slightly concave, with faint convergence below; median interorbital distance larger than eye length (45:44::49:40 = length of eye and upper, median and lower interorbital distances respectively²); malar area large its length more than width of flagellum (8:5); clypeus slightly shorter than half its width, and much shorter than half clypeocellar distance ($14 \times 32:45$ = length and width of clypeus and clypeocellar distance respectively), clypeus almost flat; interalveolar distance equal to transverse diameter of antennal socket, and half alveolorbital distance (6:13:Ø6 = interalveolar and alveolorbital and transverse diameter of antennal socket respectively); frons slightly depressed along median line, ending in a short carina below; vertex slightly convex, without postocellar carina; interocellar distance equal to orbitocipital distance, but slightly larger than ocellorbital distance, and more than twice the transverse diameter of median ocellus (14:14:11:Ø6 = interocellar, orbitocipital, and ocellorbital distance, and transverse diameter of median ocellus respectively); posterior margin of head strongly concave; ocellocipital distance (8) slightly larger than diameter of ocelli; preoccipital carina weakly indicated; scape shorter than alveolocellar distance (30:35) and half length of pedicel and flagellum (60); proportional length of first four flagellar segments as follows: 3.5:4.5:5:5; diameter of fourth flagellar segment 5; anterior border of pronotum almost straight; scutellum short: its length half, its width (13×27) and semicircular in contour; length of propodeal spiracle 2.8 times its width (7×2.5), measure from inner border of atrial rim; middle basitarsus two thirds tibial length (36:25); shape of hind tibia triangular with posterior

¹ The name *discolor* has been suggested by Moure.

² To convert the measurements into millimeters, each unit or scale interval = 0.017 mm.

distal extremity angulated; length of hind tibia 3 times its width (61×20.5); hairs of penicillus and comb (= rastellum) soft; hind basitarsus 2.3 times longer than broad (30×13); length of pterostigma 3.7 times its width (30×8); length of Rs three times length of R1 (36:12); marginal cell broadly open; submarginal, median and second cubital cells absent; submarginal angle (Rs-M) a right angle; length of M two thirds pterostigma length (30:20); hind wing with 5 hamuli; jugal lobe about one half as long as vannal lobe.

VARIATION: The main variation is the presence of a faint narrow stripe (light brown in color) along lateral margins of mesoscutum, and continuous with axillae and scutellum. Also the dark areas of the supra-antennal area and vertex are, in some of the specimens, more restricted to the upper part of the head. Middle legs sometimes appear partially darker.

DIAGNOSTIC CHARACTERS: Especially differentiated from other closely related species, such as *T. atomaria* (Cockerell) and *T. buyssoni* (Friese), by its general brown color, combined with parts (most of the head, and fore and middle legs) which are yellowish in color.

TYPE MATERIAL: Holotype and paratypes from Pozo Azul, a pocket-like area formed by the union of the rivers Candelaria and Pirris (Parrita), on the Pacific slope of Costa Rica, in San José Province. The specimens were collected by the author on November 9, 1961. The holotype and 5 paratypes are in the Entomological Museum of the University of Costa Rica, 4 paratypes in the Snow Entomological Museum of the University of Kansas, and 4 paratypes in the collection of Padre J. S. Moure, University of Panamá, Curitiba, Brazil.

SUMMARY

A new species of stingless bee, *Trigona (Trigonisca) discolor*, is described from the Pacific slope of Costa Rica. A brief discussion on its systematic position in also given.

RESUMEN

En este trabajo se describe una nueva especie de abeja melipónida chupajo, *Trigona (Trigonisca) discolor*. Se discute también su posición sistemática y se dan algunos datos generales de las abejas chupajos (*Trigonisca*) de Costa Rica.

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